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Method to compensate for tape slope and head azimuth errors.

A method is provided to compensate for tape slope (A) and read/write head block (102) azimuth (B) errors in a tape drive system (100). The method writes a data pattern (504) on a magnetic medium (104) at a known slope (C). The portion of the magnetic medium (104) that is encoded with the data pattern (504) is then moved across the read/write head block (102), so that first one read head (154) and then the other read head (152) detects the recorded data pattern (504). The time difference (ΔT_{ON}) between the event of each head (154, 152) first sensing the data pattern (504), and the time difference (ΔT_{OFF}) between the points where each head (154, 152) no longer detects the data pattern (504), are both recorded. The recorded information is used to analyze the angular offset (A-B) between the centerline (192) of the tape (104) and the centerline (194) of the read/write head system (102). The angular offset (A-B) is used to determine a lateral displacement (D) between the two read heads (154, 152) in a direction perpendicular to the centerline (192) of the tape (104). The lateral displacement (D) is used to adjust the stepping distance between data tracks recorded in a first (i.e., forward) direction and a second (i.e., reverse) direction on the tape (104) so that the respective read

head (152, 154) is positioned substantially on the center of the respective recorded track.

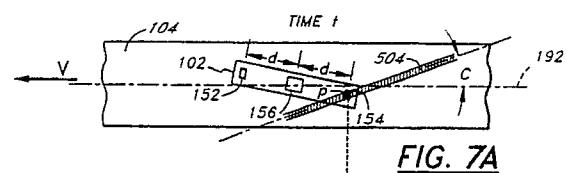


FIG. 7A

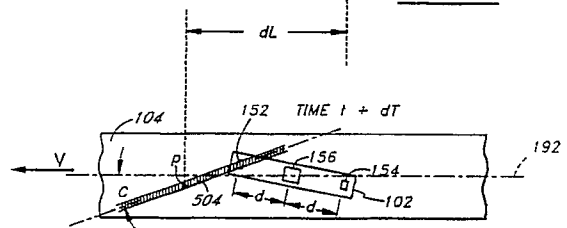


FIG. 7B

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**EUROPEAN SEARCH
REPORT**

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-3 678 220 (LUHRS) * column 2, line 21 - column 6, line 47; figures 1-4 * - - - -	1,7,8	G 11 B 5/584
A	PATENT ABSTRACTS OF JAPAN vol. 8, no. 271 (P-320)(1708) 12 December 1984, & JP-A-59 139128 (SHARP) 9 August 1984, * the whole document * - - - -	1,7	
A	IBM TECHNICAL DISCLOSURE BULLETIN. vol. 19, no. 5, September 1976, NEW YORK US pages 1602 - 1603; janssen et al: "logical zero-position indicator" * the whole document * - - - - -		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G 11 B
Place of search	Date of completion of search	Examiner	
The Hague	04 September 91	CALARASANU P.D.	
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention		E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	